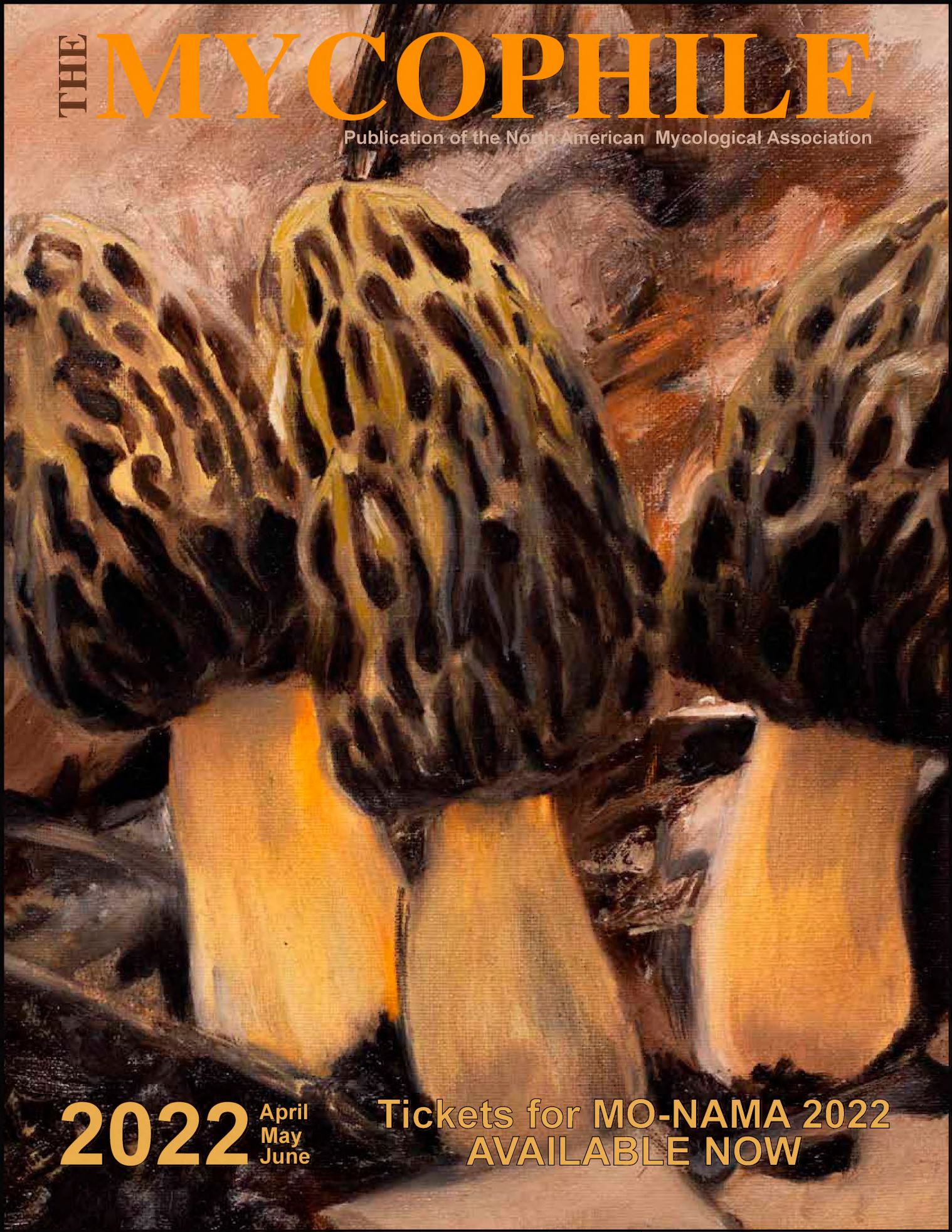
THE MYCOPHILE

Publication of the North American Mycological Association



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Article ideas should be sent to:
Julie H. Case
mycophile@namyco.org

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The Toadstool Picker's News

by Trent Blizzard

Back in 1960, when NAMA was forming, the *Mycophile* was created. What few know is that it wasn't named the *Mycophile*—it was called *The Toadstool Picker's News.* However, the purists in the new organization objected to the name, and the *Mycophile* was born. As many know, I am not a purist! I enjoy all the aspects of our myco-world from culinary to cultivation to medicinal to taxonomy. Thus, I am going to mix a little irony and history together and call this president's column "The Toadstool Picker's News".

Did you know that NAMA offers many opportunities to get out there and meet like-minded people?

We have two forays coming up in September and October, offering opportunities to get out and meet folks IRL: the Annual Foray in Missouri and the Regional Northwoods Foray in Wisconsin. Both combine serious mycology lectures with hands-on workshops, culinary arts, mushroom identification and specimen vouchering. I urge you to consider volunteering, there are numerous ways you can help us pull off these awesome events. Kristen and I have met some of our best friends at NAMA forays and would highly recommend them to anyone interested in fungi—both forays are covered in this *Mycophile*. Many thanks to the hard work of the teams planning these events!

Did you know that some of our members engage in serious discussion via private message boards? Our members-only NAMA discussion group, for example, is a place where you can discuss all things myco in a safe and moderated environment. New this year is our Officers' Lounge—a private Facebook group for officers of mycological associations to help each other with common administrative issues. If you are a member of NAMA, and an officer in one of our affiliated clubs, you qualify! Both are great places to network, learn, and meet new people. Email president@namyco.org to get your access credentials.

Of course, we also have our popular, public-facing Facebook group and Instagram account.

Make sure you follow us! Every week, we invite a new, myco-centric Instagrammer to do an account takeover. We are taking applications now for 2022 and 2023 Instagram takeovers now—let us know if you are interested by DMing @northamericanmyco.

There are other ways to get involved with NAMA now: Our Facebook and website management teams are looking for help, and your time and talent would be welcomed. If arts are your thing, try our Visual Arts Committee, which produces the Art and Photography Contest. Want to help educate future mycologists? Join the education committee. Virtually every NAMA committee is looking for more members: Rolling up your sleeves and getting involved with one is a great way to meet new friends and make a difference. I hope to meet you out there in one of these places in 2023!

NAMA's Zoom lectures have been active this winter with three presentations in the books. See webinars, old and new at www.namyco.org/webinars.php.

Keen to learn more about mushrooms and taxonomy? Try Dr. Michael Beug's presentations at https://namyco.org/educational_programs.php which offer detailed classes and photos organized by major genera.

Mycology in the NEWS

Annual Foray Headed to the Midwest

Missouri to mete out much mycological majesty Sept. 29–Oct. 2

Bruch Reed, Chief Operating Officer, NAMA

By the time you receive this *Mycophile*, registration will be up and open for our long-awaited mycogasmic MO-NAMA 2022 Annual Foray! Missouri's rolling, fungus-filled foothills await the September 29 through October 2 descent of delighted NAMAniacs upon Trout Lodge in Potosi, Missouri. Our host club, Missouri Mycological Society (MOMS) is already excitedly pulling out all possible stops to show off everything their neck of this continent's woods has to offer. A small crew from MOMS and NAMA had the pleasure of meeting up for a Trout Lodge site visit in February; that our visit fell on Valentine's Day weekend surely must testify to how deeply we love mushrooms!

Trout Lodge exceeded all hopes, expectations and needs for happily ensconcing our event. Comfy, welcoming accommodations, nestled beautifully into 6,000 largely-virgin acres of gently rolling hills and dales, all covered thickly in a promising mix of oaks and pines (and sassafras, and *Nyssa*, and sweet gum and sycamore.) Even in the dead of winter, our hearts sang *such* a fungal tune!

The resort's comfy configuration enables us to offer several lodging styles—and price points—from which foray-goers may choose, ranging from standard hotel rooms (each with a deck overlooking the lake) to shared cabins (lake- or forest-view), to summercamp-style communal bunkhouses to tent camping. As we did last year, we offer a commuter package for those who wish to stay offsite. Meals will be provided cafeteria-style, similar to last year's foray; Trout Lodge and Snow Mountain Ranch are "sister" YMCA properties and I noticed a distinctly similar prevailing kind, can-do, enthusiastic ethos among the friendly Trout Lodge staff. I predict that our attendees will feel most warmly welcomed into our temporary home.

This year's rockstar speakers' roster includes (thanks to host club MOMS) our TWO stellar chief mycologists (and familiar faces): Dr. Andy Methven and, as he likes to call himself, the

"Wrong Reverend" Jay Justice! We are also delighted to have engaged MSA NAMA Scholarship recipients Mara DeMers and Rachel Swenie, as well as Cornelia Cho, lichenologist Natalie Howe, Andy Miller, Henry Beker and Jon Sommer, local mycomarvel Mike Snyder, who is also committed to lead our cultivation workshops. Meanwhile, the astonishing watercolorist—and longtime NAMA foray fave—Denis Benjamin is on tap to teach and inspire with his artistic ability.

Just last week, Mike Snyder did some foray-site scouting for us and offers these tantalizing observations: "There are an enormous amount of trails and cool features to see [on the Trout Lodge grounds. Lots of big trees and various forest types. Looks very promising for mushroom hunting! I spent most of the day on-site, but I also stopped at a few other spots on the way back home that will make excellent foray spots as well! Bruch, you'll be happy to learn that I discovered an old Civil War-era cemetery right by the lake! There were some old lichenized tombstones so you may get your lichens in the cemetery foray right onsite!"

That last comment is directed at my stated desire to honor the late great Gary Lincoff's penchant for opening our eyes to the oft-overlooked fungal (and lichenic) wonders to be found in graveyards, the older the better. Here's hoping we can gain access to these, ahem, hallowed grounds for some respectful citizen sciencing.

The event is still five months away and will continue to be fostered to fruition by our capable team of NAMA Foray Chair Sam Landes and MOMS/NAMA Liaison Maxine Stone, along with the host of enthused folks they have assembled to knock this one out of the park. I'm already yearning to get back down to that lovely locale and dig on into the fungal riches soon to burst from the thawed ground.

I am writing this blurb four weeks in advance of event registration opening; if you feel tantalized by what you read here, please head on over to the NAMA website and register before it's sold out!

CLICK HERE TO REGISTER FOR MO-NAMA 2022

FunDiS

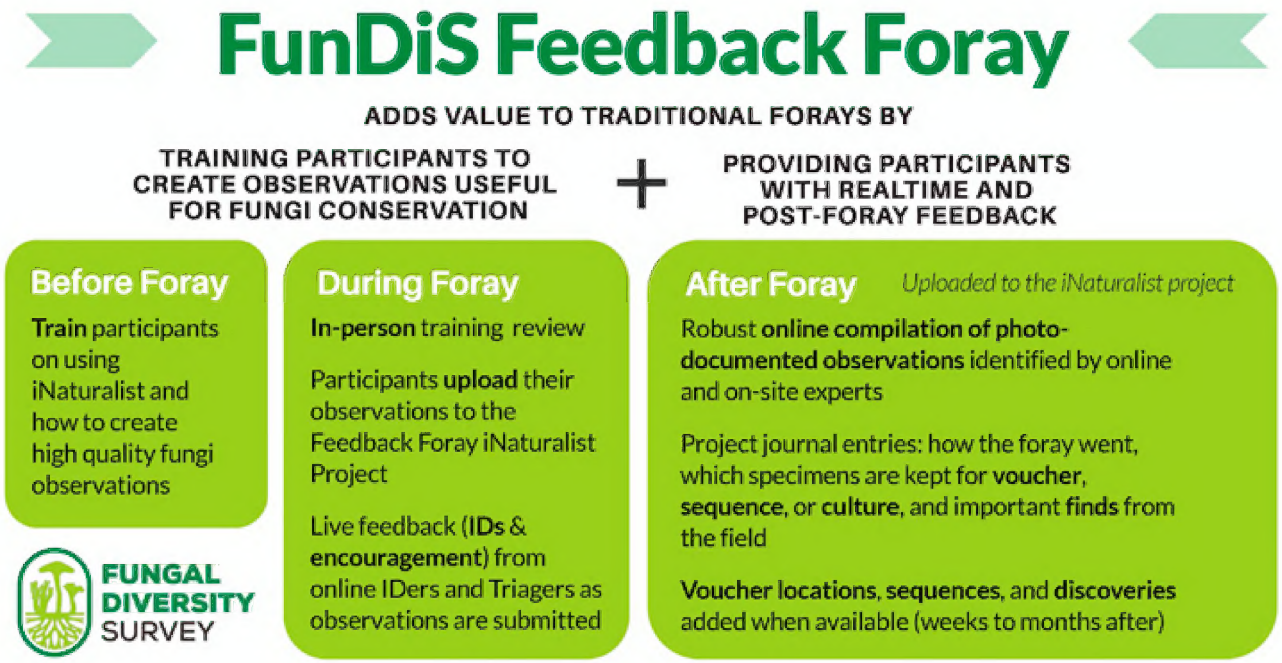
Proposes Enhanced Foray Model

FunDiS Proposes Enhanced Foray Model

Feedback Forays to make mushroom forays more interactive and fun, while also supporting fungal conservation

Bill Sheehan, Gabriela D'Elia, and John Plischke III

Forays are the heart and soul of mushroom clubs. The traditional model excels as a social event and at creating lists of species. But forays could be improved as interactive learning events that engage and train beginners while also contributing high-quality observations useful for fungal conservation. Feedback Forays, an initiative of the Fungal Diversity Survey (FunDiS), use distributed technology—smartphones, the internet, and crowdsourced platforms like iNaturalist—to help participants learn fungal identification by providing real-time feedback and creating permanent online photo-based collections of identified specimens. While everyone likes such robust learning, Feedback Forays will be especially effective for engaging younger generations of mycophiles, the majority of whom commonly use interactive technology.


FunDiS Feedback Foray
ADDS VALUE TO TRADITIONAL FORAYS BY
TRAINING PARTICIPANTS TO CREATE OBSERVATIONS USEFUL FOR FUNGI CONSERVATION
+
PROVIDING PARTICIPANTS WITH REALTIME AND POST-FORAY FEEDBACK
Before Foray
Train participants on using iNaturalist and how to create high quality fungi observations
During Foray
In-person training review
Participants upload their observations to the Feedback Foray iNaturalist Project
Live feedback (IDs & encouragement) from online IDers and Triagers as observations are submitted
After Foray
Uploaded to the iNaturalist project
Robust online compilation of photo-documented observations identified by online and on-site experts
Project journal entries: how the foray went, which specimens are kept for voucher, sequence, or culture, and important finds from the field
Voucher locations, sequences, and discoveries added when available (weeks to months after)
FUNGAL DIVERSITY SURVEY

Interactive, Open-Source, and More Rewarding

Feedback Forays build on the traditional foray model, in which participants collect specimens on pre-arranged trips and bring those specimens to a central location where experts identify them. On day forays, this might be gathered around a picnic table over lunch or at the end of the day.

At weekend and longer forays, several experts usually stay in the central area, work with microscopes and taxonomic books, and then place labeled slips on identified specimens. Collectors bring their mushrooms to the identification area and fill out as much data on ID slips as they can. Collectors then usually leave for a meal, a talk, a workshop or head back out collecting. During the day and evening the experts work on the identifications and put them out on display and often collections get combined. It can become difficult for a participant to find their mushrooms and the names that got put on them. A "walkthrough" is generally conducted on the final morning of the foray, at which the most dedicated remaining participants crowd around the tables while experts expound on the taxa displayed. At the end of the traditional foray specimens are discarded, save a few that may be taken home by experts for further study and vouchering.

Feedback Forays aim to record all well-documented finds on an open-source platform available to anyone with an internet connection. FunDiS is currently using iNaturalist because it has a simple-to-use field app that records photographs, geo-location coordinates, and timestamps. (Another widely

used platform, Mushroom Observer, is developing a field app that has not been released as of this writing.) The online app notifies the collector of any questions about their mushrooms that online experts have and notifies the collector of what the identification expert thinks their mushroom is. The collector has the opportunity to look up the mushroom if needed and can agree with the identification(s) or ask the identifier any questions they have about the identification. It's a more interactive and rewarding process that results in public records for future research.

Setting Up a Feedback Foray

Prior to any foray, organizers set up a project on iNaturalist that will house observations made during the event. Usually, the project is an iNaturalist "traditional" project and requires that participants—specimen collectors—join the project before posting observations. For clubs and foray leaders, the benefit of a traditional project type is that it allows experts to later add text information, such as DNA sequences or other metadata, to observations. While another type of iNaturalist project, "collection" projects, does not require foray participants to join in order to submit observations, it also does not allow the later addition of metadata by experts. Feedback Foray personnel are recruited ahead of time and oriented to project operation.

To ensure the success of a Feedback Foray, participants are trained on using iNaturalist and on creating high-quality observations as much as possible before the foray. Participants set up a free personal account on iNaturalist and get familiar with the app both on their smartphones and computers.

Participants are also encouraged to practice selecting, editing, and uploading photos from their smartphones to their iNaturalist accounts. (Photos can be uploaded to iNaturalist from any camera but that involves a few more steps; and if the camera does not have GPS recording capability, collection location must be added manually on the website.) Training can be done via special Zoom sessions before the foray, or as a part of club meetings or club walks. A review (and training for newcomers) will be done at the start of the Feedback Foray.

Conifer Roundhead (*Stropharia hornemannii*) photographed with a FunDiS advanced field data slip.

Photo by Joanne Schwartz.

Along with learning how to use iNaturalist, Feedback Foray participants learn how to create mushroom observations that are valuable to conservation science. We use FunDiS's minimum quality standards which include taking clear, in-focus photographs in which the fungus sporocarp is large in the frame and shows the cap, pore or gill surface, stipe and other key features; including something for scale; and showing the habitat or substrate. For observations that meet these standards, participants learn how to add observations to FunDiS's Biodiversity Database, a curated collection that is vetted by expert identifiers.

In the Field: Putting iNaturalist and Feedback Forays into Action

Once on a foray and collecting specimens, participants make observations and upload them to the Feedback Foray iNaturalist Project via smartphones—if there is cell service—or back at the base, using Wi-Fi. Even if there is neither cell service nor WiFi, participants can capture their specimens in iNaturalist and add them to the project, and the upload will happen automatically when service is available.

As observations are posted to the Project, the feedback begins. Depending on the number of participants, one or more Online Triagers go through the observations and flag poor quality observations, give suggestions (in the comment field for each observation) for improvement, and alert expert identifiers to taxa of special interest. Simultaneously, Online Expert Identifiers review observations added to the project and confirm, correct, or supply identifications. Online feedback is provided during the foray as much as possible, but also can continue for weeks after the foray to communicate the status of vouchers, sequences, or discoveries made.

An important element of the Feedback Foray is building a permanent and open-access record of identified specimens. On-site expert identifiers continue to identify specimens using books and microscopes as is customary during most traditional weekend forays.

A young community scientist captures a photo while her friends look for an ID. Photo by Gabriela D'Elia.

For the Feedback Foray, a Table Photographer creates a photo record of all specimens identified by on-site experts, together with their labels, and uploads them to the Feedback Foray iNaturalist project. Observations of table specimens may later be associated with field observations by adding URLs to corresponding observations. Voucher locations, DNA sequences, and notes on new discoveries will be added when available, sometimes weeks or months after the foray.

Feedback Foray Model Begins to Pan Out

The two main goals of Feedback Forays are to increase the number of quality observations in the FunDiS Biodiversity Database—if it's a high-quality mushroom observation, the FunDiS Biodiversity Database wants it—thereby building high-quality data usable for conservation science, and to make mushroom forays more interactive.

Already, the model is showing its merit.

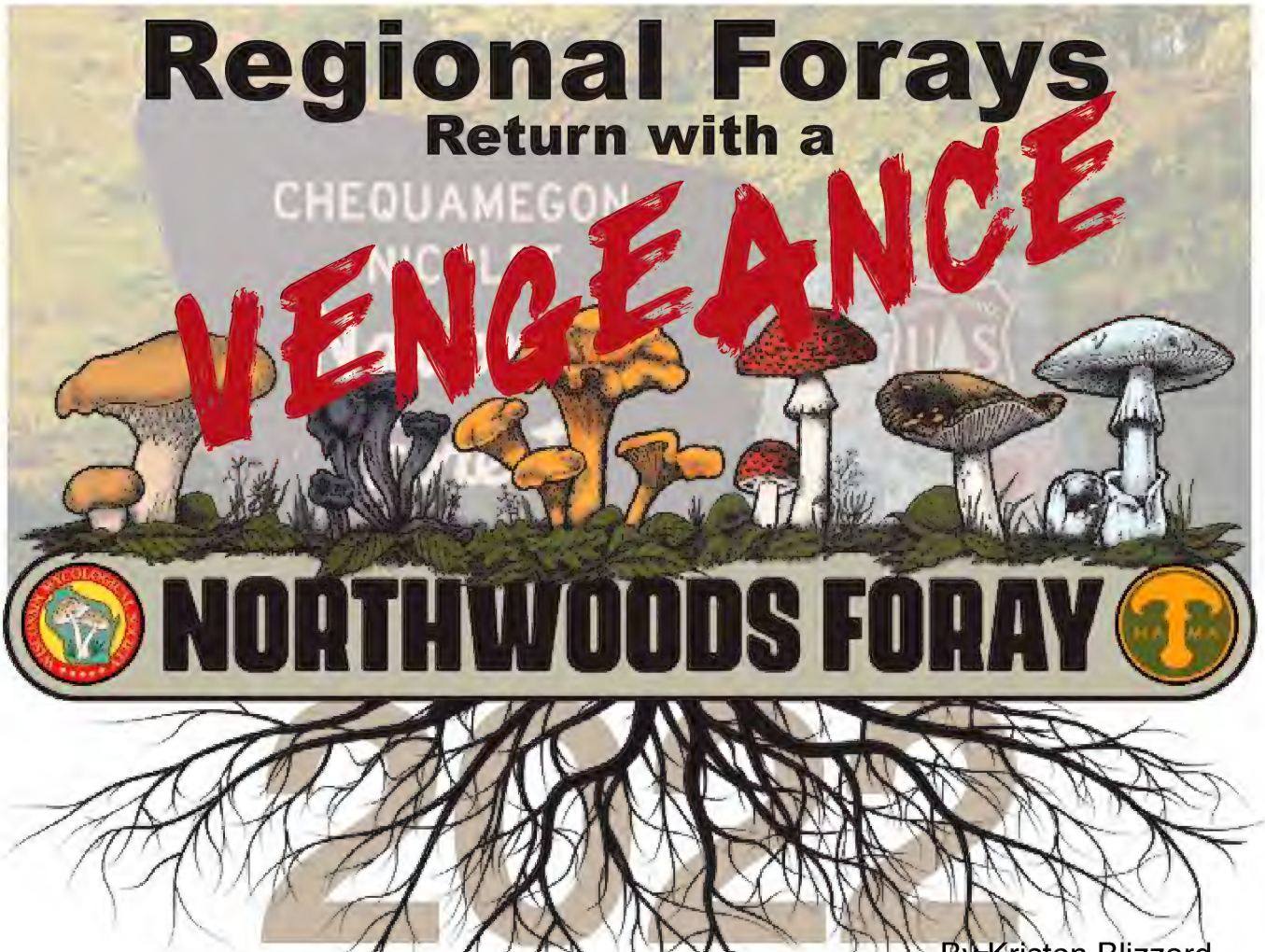
An early feasibility test of the weekend Feedback Foray concept was conducted at the small 2021 Wildacres Foray in Western North Carolina, resulting in 75% research-grade observations. The most extensive use of real-time online feedback has been developed by Stephen Russell of the Hoosier Mushroom Society (HMS) for week-long, statewide mycoblitzes in Indiana since 2017. During the HMS Online Fall 2021 Foray, conducted over 10 days, 2,484 observations were logged, of which 53% are research grade. Mushroom clubs have started using iNaturalist projects to casually document forays, but most of these, to our knowledge, lack real-time or even post-event feedback to participants.

The Feedback Foray aims to benefit conservation science by increasing the value of information generated from mushroom forays and to increase the learning and satisfaction of mycophile participants. Foray participants are the people who are already clued into the importance and intrigue of fungi. By evolving our tools and resources, we can engage mycophiles to become successful community scientists and increase the quantity and quality of data that is needed for helping protect fungi and their habitats.

About the Authors

Bill Sheehan co-founded FunDiS (with Stephen Russell) in 2017, was Board President through 2021, and is currently a Board member; he is an active member of the Mushroom Club of Georgia. Gabriela D'Elia is Director of FunDiS and Vice President of the Mushroom Society of Utah. John Plischke III is At-Large Trustee of NAMA's Executive Committee and a founding member of the Western Pennsylvania Mushroom Club.

Regional Forays Return with a VENGEANCE



By Kristen Blizzard

Last year, the NAMA Executive Board committed to reintroducing Regional Forays. These smaller, more localized regional gatherings follow a recipe similar to that of the Annual Foray.

This year, in partnership with Wisconsin Mycological Society (WMS), the first official NAMA Regional Foray in several years will be held in Cable, Wisconsin at Lakewoods Resort. If this location sounds familiar, that's because it is the same as NAMA's 2017 Annual Foray, which has passed into legend as one of the best, most mushroom-diverse and abundant ever! Our rule of forays may be "you can never promise mushrooms," but if ever there was an exception that proves a rule, Cable is it!

Nationally renowned dynamic speakers Tradd Cotter and Dr. Britt A. Bunyard headline this year's regional foray. Cotter is a founder of Mushroom Mountain, author of the popular cultivation book *Organic Mushroom Farming and Mycoremediation*, and proprietor of The Blue Portal: A Psilocybin Assisted Therapy Experience in Jamaica and Costa Rica. Bunyard is the editor/publisher of *Fungi Magazine* and the original founder of the Northwoods Foray. He also serves as Executive Director of the wildly popular Telluride Mushroom Festival and is the author and co-author of several books, including *Amanitas of North America*, *The Lives of Fungi: A Natural History of Our Planet's Decomposers* and, with notable Wisconsin russulologist and cultivator Tavis Lynch, *The Beginner's Guide to Mushrooms*.

The event will also highlight hands-on workshops from Minnesota Mycological Society members Kathy Yerich and Randy Strobel, photographer Liz Weinstein of the Illinois Mycological Association,

and NAMA President Trent Blizzard. A wild mushroom sauté will allow attendees to sample many of the wild edibles commonly found in this region. Of course, organized forays will depart from the resort morning and afternoon each day.

An integral part of our events, and which supports the mission of both NAMA and WMS, is specimen vouchering. This year, vouchering and mushroom identification will be handled by the same wonderful faces many have seen in the past: Dr. Patrick Leacock, Dr. Britt A. Bunyard, Adele Mehta, Tavis Lynch, Bruch Reed, Arne Martinson, Olivia Filialuna, Ariel Bonkoski and the whole WMS crew. The specimens collected will be submitted to the Chicago Field Museum for inclusion in its permanent fungal collection.

Beyond the vouchering, forays, and talks, an art exhibition and Thursday night raffle will highlight the artworks of WMA President Dr. Theresa Kenney and several WMS Board members. Proceeds will go to support the Cable Natural History Museum, which has been a generous longtime local partner to our Northwoods mycological mission.

NAMA is looking forward to adding more Regional Forays to the roster in years to come. It's a fantastic way to engage our member clubs and further our mission to promote, pursue and advance our continent's mycology.

Note: At the time of publication, the event has sold out. To sign up for the waitlist, visit the Regional Foray page under Events at the NAMA website. For registration questions and/or assistance, please contact NAMA/WMS 2022 Northwoods Regional Foray Registrar, Kristen Blizzard, at NorthwoodRegionalRegistrar@namyco.org.

Myco

The Joy of Wild Cultures

by Charlie "Charliceps" Aller

Mushroom growing in leaves, Bourré, Loir-et-Cher. Photo courtesy of Wikicommons - avec l'aide de nathalie

Two species of *Cordycipitaceae*. Five species of *Ganoderma*. Three species of *Hericium.* Not to mention the *Wol poria, Hymenopellis, Pleurotus, Grifola, Macrolepiota, Globifomes, Laetiporus, Piptoporus, Fistulina, Sparassis,* and more *Morchella* than you can shake a stick at. What kind of strange, pan-seasonal myco-menagerie is this? It's a typical menu for a wild culture aficionado.

With little hesitation and much gusto, mycophiles are roaming fields and forests, offering hospitality to any fungal cultures that say they want to come home. From the common and easy-to-grow *Pleurotus* to the ever-elusive morel, appreciators of fungal cultivation are increasingly seeking new thrills and new partnerships in their local woods. For some, there are untapped commercial opportunities in the myriad of edible and theoretically farmable species of saprobic fungi that teem in our local ecosystems. For others, the fascination has more to do with beauty, strangeness, curiosity, and growing something that may never have been cultivated before.

The list of cultured species above is far from exhaustive, even of my own collection, and I can scarcely begin to catalog all that other cultivators have worked on. For my own part, I can't claim success in fruiting many of the species I've attempted. Yet I try, year after year, season after season, continually assembling strains to add to the collection as well as techniques that aid in strange fructifications. Special diets, cold shocks, electric shocks, bacterial stimulation, fungal stimulation, mated spores, six-month rest states; the list of methods goes on and on. Each culture has a particular handful of factors that need to be met in order to produce a mushroom.

Most of my own experience cultivating fungi as a hobbyist and small farmer has centered around saprobic fungi—think, oyster mushrooms—many of which are competent to grow in a petri dish without too much special care. Saprobes are in many ways the most accessible group of fungi to work with because of the simple, effective, and versatile methods for at-home propagation: Sawdust inoculum, commercial cultures, and internet troubleshooting have made it as simple as planting a garden to grow saprobes such as oysters (*Pleurotus ostreatus*) at home.

Nine years ago I started finding and growing wild mushrooms. That feels like the dark ages compared to today. When I look at books like Paul Stamets' and J.S. Chilton's 1982 *The Mushroom Cultivator* or 1976's iconic *Psilocybin, Magic Mushroom Grower's Guide: A Handbook for Psilocybin Enthusiasts*, by O. T Oss and O N Oeric, it is amazing to see how far mushroom growing has come in 50 years. Mail-order spores and agar cultures utilized in closets and pantries have given way to ubiquitous grow

kits, liquid cultures, and boutique genetics. The widespread availability of HEPA filters and other mycological equipment has increased dramatically in the last decade alone. In addition, the capability for all of us to compare techniques and get advice from experienced growers through the internet has greatly enhanced the speed at which novel and iterative ideas about propagation have been developed and shared. The availability of sterilizers, syringes, petri dishes, and even higher-tech equipment has brought a degree of ease to the practice of culturing mushrooms, especially wild mushrooms. And yet, there are still many effective methods for cultivating that do not rely on technological expertise or heavy financial investment.

I learned just how easy it can be to grow mushrooms the first time I tried it.

January in Virginia in 2013 was rainy and cold and I was working at a mushroom farm and had lots—perhaps too much—time on my hands. Walking along the Rivanna River, looking over downed logs, I spied a nice little cluster of *Flammulina velutipes*—velvet shank mushrooms, the enoki's wild cousin. How they glistened! Slimy yet snappable, they called to me. I brought them home and took a spore print on aluminum foil. The spores they threw were white—definitely not a *Galerina* species—and looked so enticing.

I had just begun to learn about fungal life cycles in earnest, and the genetic potential held within those spores was mind-boggling. Each spore could be hyphae—the branching filaments that make up the mycelia—and they could cover the world if given the chance and enough food…. I was in a position to provide both chance and food. So, I ventured my first attempt to mix and sterilize substrate.

I had been witnessing the results of proper technique firsthand at the farm, so I knew I needed to use a special process to prepare the food for the mushrooms. I mixed up a batch of brown rice flour, vermiculite and sawdust, shook the mixture into a brace of quart jars, and cooked the jars in a steaming pot for two hours. I cleaned my bathroom, got syringes from the hardware store and sucked up boiling water to sterilize them, then let the syringes and the jars cool. Then, I sprayed the air with a fine mist of now-sterilized water to knock down loose floating particles of dust and other spores and waited.

Finally, I released water onto the spore print, sucked up the resulting milky white liquid, and injected it through aluminum-covered jars full of vermiculite mix, taped them over, and waited once more.

Two weeks later the jars were teeming with a uniform white mycelium like I had been seeing at the mushroom farm. I was off to the races. And while the first batch didn't yield many mushrooms, it did yield a whole new approach to cultivation.

That began my love affair with cultivating wild mushrooms and I still employ some of these methods today. Most notably, whenever I use a still air box—a cheap alternative to a HEPA-filtered laminar flow hood when you don't have electricity or a lab—I always mist the room to reduce particles before I work.

More and more people are turning to simple and low-tech culture methods, and the subject deserves an article in its own right. In spite of the potential and importance of those methods, most of the folks I know who culture mushrooms frequently or who grow larger quantities end up using some combination of pressure sterilizers, agar or some other gel growing medium in petri dishes, and a laminar flow hood. The pressure sterilizer is a fairly uncomplicated machine with an important role in culture work: rendering competitive organisms living in fungal food/media inert or dead. Agar is cooked at 15 psi in the pressure sterilizer, then poured in petri dishes in front of the laminar flow hood. The laminar flow hood cleans small particles and microscopic competitors from the air and blows out a clean stream over your workspace, so that the petri dishes can be carefully inoculated with spores or culture of your chosen species without risk of contamination. When working with wild cultures, this is often the first step along a path of breeding, domestication, or partnership.

Growing wild mushrooms can also be extremely simple and accessible to just about anyone. There's "cardboard cloning tek," a much-beloved technique—wherein one soaks the cardboard, layers it with mycelium or a piece of a mushroom, and allows it to colonize—utilized both for demonstrations and practical culture work. It works with many fungi that love to eat wood, especially with oyster mushrooms and any *Pleurotus* species. Next time

you're out in rainy, cool weather and happen upon a cluster of your local oyster mushrooms, consider doing them a service by way of propagation: simply harvest a mushroom that looks fresh enough to eat and cut off the base of the stem. Some people dip the stem in hydrogen peroxide or isopropyl alcohol briefly, but it's not necessary so long as the stem is clean and fresh.

When you get home, first wash your hands with soap. Use boiling water to briefly cook a three- to four-inch piece of corrugated cardboard, newspaper, toilet paper roll, or whatever clean, post-consumer paper product you happen to have around. (I like corrugated cardboard because it peels apart into layers and rarely gets too wet.) When the cardboard has boiled for a few minutes in the water, pull it out, let it cool, squeeze out the excess, and lay it flat. Cut up the oyster stem into 1 cm square pieces, then spread them evenly over the cardboard and roll it up. Secure it loosely with a rubber band, place it in a Ziploc bag or small jar, then leave it in a cool, dark place for a week or two. When you next check on it, chances are there will be new mycelium emerging from the stem pieces and eating the cardboard. Congratulations, you just cultured a wild mushroom!

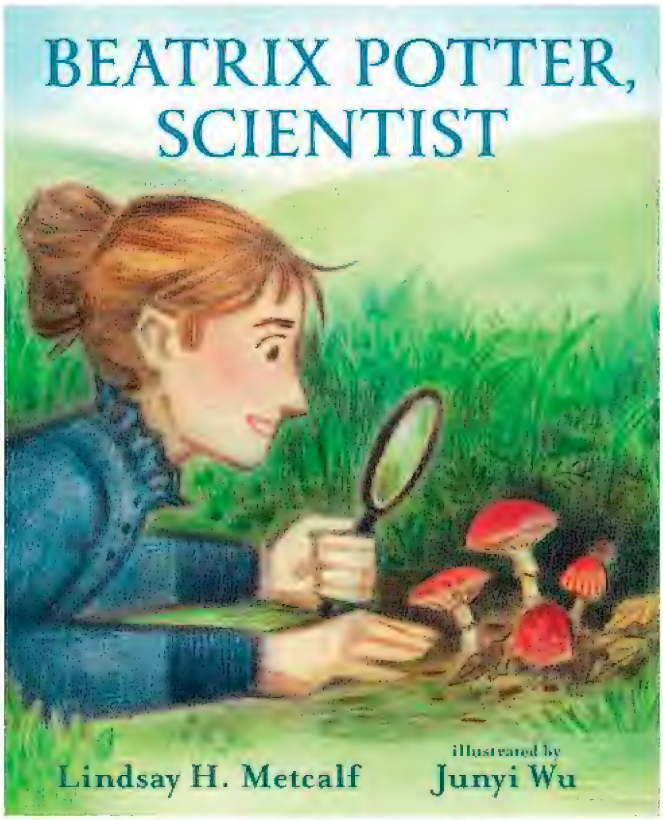
Amazingly, oysters can produce a little tiny fruit body from just a small square of cardboard. Continue to feed them with additional paper recycling, straw, and coffee grounds, and you can grow more and larger mushrooms.

A plethora of effective techniques and a broad spectrum of interest in cultivating wild mushrooms is actively growing in the world. This article is merely the tip of the vast, myceliated iceberg of human-fungal relations—and NAMA's coverage of the subject. Future cultivation articles in ***Mycophile*** will dive into techniques for isolating difficult cultures, the particulars of breeding new strains from wild parents, or the experiences of farmers in bringing unique new varieties to market.

For now, though, if you're interested in learning more or hoping to launch a new obsession—as I did nearly a decade ago—consider starting with some reading: books such as Willoughby Arevalo's 2019 ***DIY Mushroom Cultivation***, Tradd Cotter's 2014 ***Organic Mushroom Farming and Mycoremediation***, and Peter McCoy's 2016 ***Radical Mycology*** all help lay the foundation. And, the mushroom growing group on Facebook is a wonderful place to troubleshoot, trade techniques, and bond with other amateur cultivators. Good luck going out to make some new fungal friends!

Wikicommons Spore Print of the week — Velvet Shank (*Flammulina velutipes*)

Mycological



Far Beyond Peter Rabbit

A review of Beatrix Potter, Woman Scientist, *Authors:*
Lindsay H. Metcalf, illustrated by Junyi Wu
Reviewer: Eva Gordon, Vice-President,
North Texas Mycological Association

Beatrix Potter is beloved for her delightful children's stories about Peter Rabbit and critters found in the English countryside. Her art illustrations are breathtaking and can take up an entire gallery. What few may know, however, is that before Beatrix Potter became the children's-book bestseller she was a mycologist—a citizen scientist determined to contribute research to mycology.

In *Beatrix Potter, Woman Scientist*, writer Lindsay H. Metcalf and illustratorJunyi Wu introduce us to a young Potter and her fascination with natural history and science. We learn Potter pursued the scientific method in her studies, in addition to making amazing nature illustrations. She even sprouted 40 kinds of mushroom spores at a time when very few people could accomplish such a task.Yet her contributions to science went unappreciated.

During the Victorian era (ca. 1837-1901), male-dominated established institutions acted as major obstacles for any woman pursuing the sciences. Women, such as Potter who lived from 1866 to 1943, were denied access to scientific institutions such as the Linnean Society. And so, in 1897, Potter's paper, "On the Germination of the Spores of Agaricineae," was submitted to the Linnean society on her behalf by scientist George Massee. Unfortunately, it was not approved for publication.

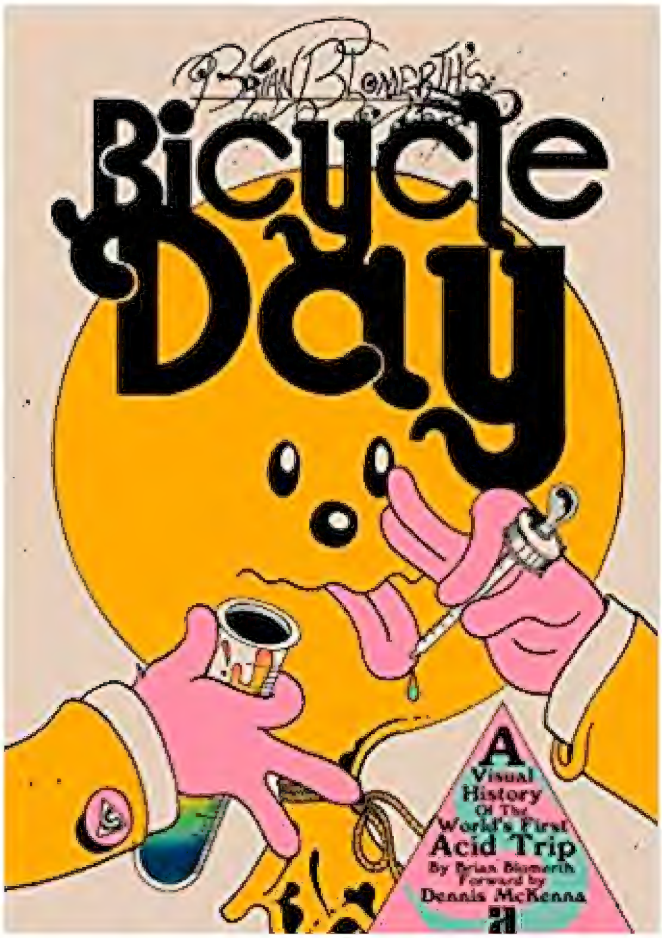
Dismissed by the male-dominated science community,Potter began to focus on storytelling, and *Peter Rabbit* became a great hit. We gained a wonderful children's author, but I can't help but wonder what would have happened had Potter's studies in mycology been encouraged and accepted by the scientific community.

While *Beatrix Potter, Woman Scientist* may be perfect for children grades kindergarten through third, it's equally enticing for older children and adults. Adults—especially parents and educators—will enjoy Junyi Wu's beautiful illustrations and Lindsay Metcalf's text. The book ends with a brief biography and timeline of Potter's life. *Beatrix Potter, Scientist*, will inspire children and even adults wanting to pursue citizen science.

And if I'm giving it a ranking, I'd give it five mushrooms.

Beatrix Potter, Woman Scientist by Lindsay H. Metcalf, illustrated by Junyi Wu
Albert Whitman & Company, 2020
ISBN-10: 0807551759 $16.60 on Amazon
By Eva Gordon, Vice-President, North Texas Mycological Association

Eva Gordon


Brian Blomerth's
Bicycle Day
A Visual History Of The World's First Acid Trip
By Brian Blomerth
Foreword by Dennis McKenna

From Bicycle Day to Wedding Night

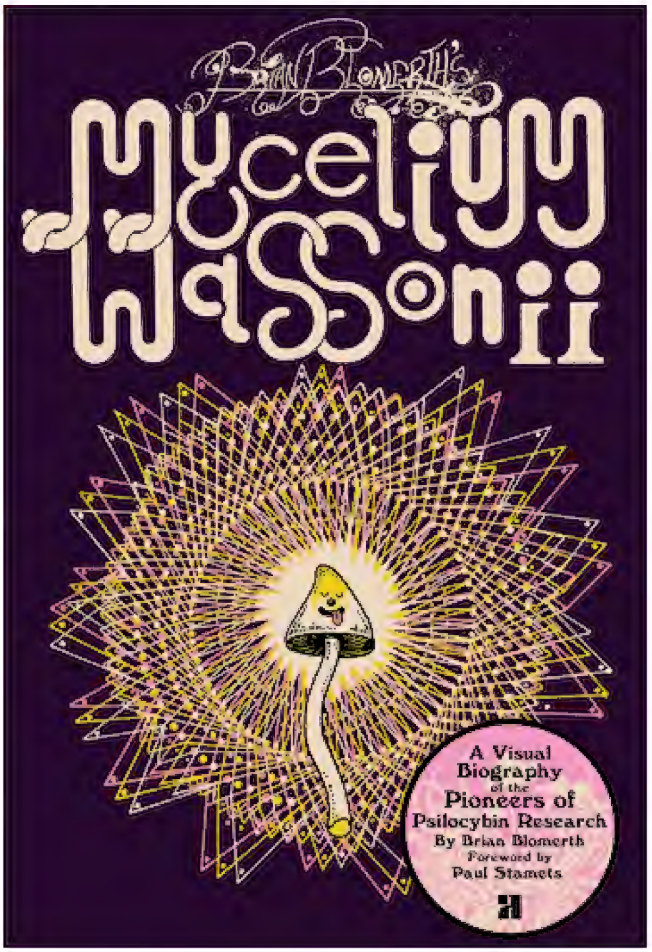
A review of Brian Blomerth's Mycelium Wassonii
Barbara Ching, NAMA Past President

I thought I already knew the story about Gordon and Tina Wasson—the amateur mycologists turned ethnomycologists who popularized psilocybin—so when *Mycelium Wassonii*, with its relatively drab cover and characters drawn as Goofyesque dogs bred by Walt Disney and R. Crumb, landed on my desk, it didn't initially draw me in. Then, I cracked the cover and suddenly I was in love and didn't want the book to end. I wanted to savor every word and each illustrated detail—I wanted to stay in the crescendo of the increasingly immersive, intricate, and color-washed *Wassonii* web.

At its vibrant heart, *Mycelium Wassonii* is a love story, a conversion story, and an account of how Valentina and Gordon Wasson uncovered and shared psilocybin's magical attributes. It's also a sequel to Brian Blomerth's 2019 graphic novel *Bicycle Day*, "a historical account of the events of April 19, 1943, when Swiss chemist Albert Hofmann ingested an experimental dose of a new compound known as lysergic acid diethylamide and embarked on the world's first acid trip" on his bicycle ride away from his lab at Sandoz Laboratories in Switzerland.

The web spun in *Mycelium Wassonii* fruits with the Wassons' love, specifically, their 1927 honeymoon trip to the Catskills where they unexpectedly encounter wild mushrooms—a source of delight to Valentina, but a horror to Gordon who refuses to eat what his new wife has so enthusiastically gathered and prepared. Instead, he lies awake alone, realizing that he has ruined his wedding night and fearing that he will find Valentina dead in the kitchen.

Waking up next to her changes everything: Gordon rushes to the kitchen and eats a bolete and lots of other mushrooms; Valentina explains that mushrooms have been a part of her life since her childhood in Russia and that her mother taught her how to distinguish the delicious from the deadly.


Brian Blomerth's
Mycelium Wassonii
A Visual Biography of the Pioneers of Psilocybin Research
By Brian Blomerth
Foreword by Paul Stamets

Soon, Gordon decides he loves reading about mushrooms as much as he likes eating them.
The illustrations of their date nights in the sumptuously detailed New York Public Library make their research seem as fun as a honeymoon foray, and as Gordon learns more about mushrooms and how they are used throughout the world, he develops an essay contrasting mycophilic cultures (like Russia's) and his own English-influenced mycophobic upbringing.
Through a conversation with Robert Graves, a British literary celebrity, Gordon learns about "THE USE OF INTOXICATING MUSHROOMS AMONG MAZATECS IN MEXICO." (Blomerth writes in all caps and employs idiosyncratic punctuation. He didn't number the book's pages, either so I can't refer you to a specific one.) Gordon, Tina, and their daughter take a trip to Oaxaca where they encounter Maria Sabina, "A FIRST-CLASS CURANDERA." Her generous tutelage more than satisfies the Wassons' curiosity even as it diminishes Sabina; for example, she says that "EVER SINCE THE WASSONS CAME … THE MUSHROOMS STOPPED SPEAKING TO ME".
At this point in the story, Blomerth has drawn magnificent mushrooms everywhere, deep in the margins, growing out of floorboards, at the ends of forks. The mushrooms even speak in runic speech balloons, as if they, too, are telling a story or commenting on Blomerth's. "I GAVE THE MUSHROOMS A LANGUAGE," he notes. "SHOULD YOU YEARN TO SUFFER, YOU CAN FIGURE THAT OUT." I think most of us are trying, and Blomerth offers his encouragement: "I HOPE IT'S NOT LOST ON YOU DEAR READER THAT THIS IS A TRIUMPH OF AMATEUR MYCOLOGISTS."
In other words, it's a love story, and one that most NAMA members, figuring out the language of mushrooms, will enjoy.
But Maria Sabina's loss . . . . I hope that story can be told in more detail, with more sympathy and more mycology. In *Mycelium Wassonii*, her prediction, her last words, are "MAYBE THEY WILL SPEAK AGAIN . . . AS MEDICINE."

Mycelium Wassonii
Anthology Editions, Brooklyn, New York, 2021
$32.00
https://shop.mexicansummer.com/books

Barbara Ching

Mycophagy

The Sacred and the Arcane

by Eugenia Bone

A search for fungi's formative role in ancient architecture delivers one equinox, three witches, and a seven-course taste of indigenous and Ozarkian culture.

I went to St. Louis in March hoping to gain some insight into the religious practices of the archaic Mississippian culture, something I could apply to a crazy idea I had about fungi and sacred architecture. I came back with a tummy full of acorns and pawpaw and sorghum, and a head full of Ozark food lore. Oh, and the emails of three Missourian witches.

Let me explain.

The Cahokia Mounds State Historic Site in Illinois, just west of St. Louis, is considered the most sophisticated prehistoric site north of the Rio Grande. It once covered 4,000 acres and included at least 120 mounds, including the Monks Mound, a rectangular earthwork that rises 10 massive stories into the air. Cahokia was larger than London at its apex, around A.D. 1120, with some 15,000 souls living in single-family dwellings surrounding the ceremonial structures. I had a particular interest in the site's woodhenge.

The Cahokia woodhenge was built of red cedar by the Mississippian culture 2,100 to 3,000 years ago. This woodhenge, like most others, is thought to be a solar calendar, marking the equinox and solstice, possibly to help time the community's agricultural cycle. In March, I went to witness the spring equinox from within the now reconstructed henge.

Over the years I've been bugged by this notion that fungi play a formative role in sacred architecture. I figured mycorrhizal fungi, with their ground clearing and tree-networking capabilities, played a role in the designation of sacred groves. Architectural historians are pretty much in agreement that the tree-grove model is evident in sacred architecture from the Neolithic to the Gothic period. So, I guess I was looking for a sense of the continuity from fungus to grove to temple.

Since I had to be there at dawn, I flew into St. Louis the night before. I have a few friends in town, among them Dorothy Carpenter, who suggested we meet for dinner at Bulrush, a farm- and woods-to-table restaurant. Dorothy is a member of both the St. Louis and the New York mycological clubs. She's an erudite and brave woman. Once, when we were trying to converse at a New York restaurant with a noisy rowdy table next to us, Dorothy began to vociferously whoop and holler until she had captured the attention of the partiers and stunned them into silence. "Mirroring," she said, popping a French fry in her mouth. "Works every time." That night at Bulrush, Dorothy and I were joined by our friends Wesley and Elizabeth, avid morel mushroom hunters, Burning Man pioneers, and friends of the James Beard-nominated chef, and Bulrush co-founder, Rob Connoley.

I'm grateful Bulrush features a tasting menu because frankly, it would be pretty challenging for me to navigate the originality of the cooking and my unfamiliarity of ingredients like acorns and spicebush. Mr. Connoley and his team specialize in the reimagining of historic foodways, particularly the period when indigenous Ozark people first encountered settlers and enslaved people.

Bulrush opened in the spring of 2019 with egalitarian goals. The restaurant supports the regional economy by sourcing almost 100% of their ingredients locally (the only things not are salt and sugar), offering pay equality (they also offer their employees insurance, unheard of in a nonunion joint), and financial transparency. They are committed to a low carbon footprint and near zero waste. Bulrush averages 5 gallons of food waste a week; that's amazing, considering that restaurants are by far the largest producers of food waste in this country. Bulrush is also designed to provide the same experience for disabled folks as abled, and the booze-free cocktails are as sexy as the ones with spirit. Their heritage seed project produces new—actually, old—cultivars that are featured on the menu. What Bulrush set out to prove is that all these aspirations can be achieved, and a restaurant can still thrive.

And thrive it does. Dinner is like going on a tour; a very tasty, creative, merry tour of Ozark flavors. We were met at the door with a welcome drink of radish syrup, honey, thyme, and sparkling water. I had not finished this before we sat down and my glass became the first of many that accumulated around my plate as I would not let the waiters take them away undrained. (The glassware, BTW, is light and simple; the tableware runs the style gamut from Michelin-star modern to Raku).

At Bulrush one sits at a gigantic chef's table—"a theatre in the round" says Mr. Connoley—that encircles a kind of orchestra pit arrayed in squeeze bottles and fermenting jars, carving stations and flame guns. From here the chefs finish dishes and waiters serve them and Mr. Connoley describes their meticulous sourcing. For guests who might

find this intrusive, a menu tattooed with barcodes that link to YouTube videos is provided so you can nerd out on the history of walleye in Missouri later.

Mr. Connoley, 54, is trying to break the truffle paradigm of fine dining—the dependence on flown-in special ingredients—and instead measures excellence by skill applied to local foodstuffs; wild, farmed, or historic. To wit: Our first dish was the roasted onion explosion, with acorn starch, spicebush, a sorghum cloud, and an oyster mushroom crisp. You can see how difficult it would be to imagine the dish based on this description.

“We are always walking the line between how much information we give. But we never tell people what the food is going to taste like,” said Mr. Connoley.

I will: it looked like a chocolate-shaped acorn but when you bit into it, it exploded with a cool roasted onion broth, kind of like biting into a cherry cordial, but savory. Such intrepid mixing of tastes and textures characterized the entire meal: a butter poached and confit radish grown from 19th-century heritage seeds was served with an earthy acorn jelly, what’s known as dotorimuk at the Korean table.

A chunk of silky poached walleye was topped with crunchy candied pecans (and paired with a French rosé, which, like the other French offerings, sports Ozarkian rootstock). A roasted carrot was spicy with chili and hazelnuts, a popular nut in the Hopewell culture; the acorn donut with celeriac puree is a house favorite—something like a wholesome zeppole—and served with a local fig porter that I decided I need regularly henceforth. A beef cheek with pawpaw mole and cheese grits was as soft and unctuous as a Southern night. For dessert: paired honey cakes with a mulled-wine sorbet. Two chefs make all these dishes every night. And that includes the butter, which, by the way, is delicious.

I asked Mr. Connoley what he was planning for summer, and if any mushrooms were on the horizon. “Chanterelles,” he replied. “We will have them on the menu until September in one form or another: grilled with a little oil, pickled, a conserve, a roasted chanterelle kombucha that makes the base of a cocktail. Dehydrated chanterelle salt and seasoning, chanterelle ice cream and mousse. It goes on and on and on and on.” Since the menu is driven by forage and supported by farms, in the next few months “we will be cooking stinging nettle, chickweed, plantain, redbud, black raspberries and gooseberries, and proteins like Guinea hog,” said Mr. Connoley.
“I’m thinking maybe a play on smoked whitefish salad utilizing the walleye tenders, served with a rye sourdough roll.”

I can attest, yes, it is all as good as it sounds.

Pork grits and green beans

Mr. Connoley's cooking has a reputation for making people's bodies feel better, maybe because everything is made from scratch. Indeed, the next morning I didn't suffer from the usual tasting menu hangover, though navigating the predawn traffic to the Cahokia Mounds was tough as my glasses had somehow remained on the plane. But, you don't really have to see well to be overwhelmed by the immensity of the sun swelling over the Monks Mound. There were maybe 50 of us, steaming thermoses in hand, scarves around our throats, hearts in our throats, standing still as the earth beneath us tilted toward spring.

Afterward I had biscuits and coffee with Cahokia's lead archeologist Bill Iseminger and a board member, Ken Williams who, when I asked if they had any sense that maybe the woodhenge had been derived from sacred groves, explained that Cahokia was in a flood plain with few large tree species, though on the bluffs to the west there were forests where the original woodhenge timbers probably came from. I tried another tack and suggested that maybe

Sweet potatoe miso rubbed cauliflower and mushrooms

the presence of mycorrhizal fungi underlay the designation of a sacred grove, and therefore subsequent sacred architecture like the woodhenge had fungal origins. But they gave me an askance look, particular to Missourians, that said "yeah, sure. Show me."

After, with the sun high and hot in the sky, I pulled into the little parking lot next to Monks Mound to make a few notes, the earthwork heaving in my rear-view
window.
Within a few minutes, a car pulled up and parked beside me and out jumped three women in capes. I watched them pull themselves together, their keys and purses and fluttering garments, watched them lock their car and head up toward the 154 steps of the mound.
Of course I followed them.

About halfway up the mound I finagled an opportunity to ask, "what's with the capes?" They were shy at first, I guess fearful I'd get all Christian on them, but they eventually revealed they were pagans and there to celebrate the equinox. Of course I asked if I could watch their ritual and they said Okay.

We walked to the top of the mound and found a grassy spot out of the range of running dogs and toddling children, and the ladies, a blond, a redhead, and a grey-haired woman, all middle-aged and smiling, sat at three points of the compass. Since their fourth companion was a no-show, they let me stand in for the west. With the sun in my face, we felt the mound underneath us and thought about what we hoped for, and we hoped for what we thought was important and good, and the blond pushed her cape aside to reveal she was dressed in the colors of Ukraine. We waited, our bodies humming in the sun, until 10:33 a.m. Central, the exact moment spring began in that place in 2022. Then we hugged and shared a bit of lemon cake, which was already portioned into

four pieces so there was one for me, and we talked about our kids a little. But it got hot, so we gathered ourselves together and walked back to the cars. When the witches realized that I had been parked next to them all along, they called it proof of magic.

My trip to St Louis was wonderful but unfortunately did not validate my fungi-to-sacred-architecture proposition. It did, however, lead to a realization: The Missouri witches, the Cahokia archeologists, Bulrush's Rob Connoley and his colleagues, they all are committed to telling stories about the land and its people. And maybe that's how continuity is created across the ages.

Bulrush, St. Louis: Open Thursday through Sunday; 7-course tasting menu with or without beverage pairings (alcohol or spirit-free). Limited dietary restrictions accommodated. Light snacks at the bar, like pâtés and terrines. $115 per person including tax and tip. 3307 Washington Ave., St. Louis, MO 63103. www.bulrushstl.com

Morels Stuffed with Sausage and Sage By Sebastian Carosi, Oregon
Yield: 4 servings

As a professional chef, I rely heavily on the recipes my family has passed down through the generations. But let's look farther back: I think that when we eat wild foods, we relive deeply satisfying ancestral memories. The morel is more than just a wild food; it is among the most delectable of edibles. For me, good eating provides plenty of motivation to fill my basket with wild morels. I've used this family recipe, which is of Italian origin, many times.

12 ounces ground pork
¼ cup golden raisins, plumped in hot water and chopped
¼ cup panko breadcrumbs
2 tablespoons grated Parmesan cheese
2 tablespoons peeled and grated sweet onions
2 tablespoons toasted and chopped pine nuts (see note)
1 tablespoon minced fresh sage leaves, 2 to 3 large fresh sage leaves, and 8 to 12 very small fresh sage leaves, divided
1 tablespoon chopped fresh flat-leafed parsley
2 teaspoons finely chopped garlic
1 teaspoon minced fresh thyme
¼ teaspoon wild fennel pollen (optional)
20 medium-sized morels (*any Morchella species except M. verpas*), washed
2 tablespoons vegetable oil
1 tablespoon rendered bacon fat
4 tablespoons salted butter
Salt and freshly ground black pepper
2 tablespoons balsamic vinegar

Combine the pork, raisins, breadcrumbs, cheese, onions, pine nuts, minced sage, parsley, garlic, thyme, and fennel pollen, if using, in a medium mixing bowl. Mix and set aside.
Fill a pastry bag fitted with a small regular tip with the pork filling. Pipe the filling into the morels, place on a baking tray and refrigerate for up to 3 hours. Alternatively, roll the pork mixture into meatballs a little smaller than your morels and stuff the caps. You may have to slit open the stems to do this.
Preheat the oven to 400°F
Heat the vegetable oil and bacon fat in a large cast-iron skillet over medium-low heat. Add the stuffed morels and brown them for 4 minutes or so, then add the large sage leaves and continue cooking for another 2 to 4 minutes. Place the skillet into the hot oven and cook the morels for 8 to 10 minutes until the pork filling has lost its pink hue.
Remove the skillet from the oven and place it back on the burner. Add the butter and small sage leaves and heat over medium heat for a few minutes, until the butter is browned.
Season the morels with salt and pepper to taste, and drizzle with the balsamic vinegar.
Note: To toast pine nuts, place the nuts in a small, heavy skillet over medium-high heat. Shaking the pan frequently, toast the nuts until they begin to take on a golden color. Remove from the heat promptly.

Recipe by Sebastian Carosi, photography by Evan Sung, (Copyright) *Fantastic Fungi Community Cookbook* (Insight Editions, 2021)

Myco

SKOOL

Putting Children in Focus for Mycology Education

By Sister Marie Kopin, Ph.D.

Our future starts with children, and that's even true for lovers of *Saprotrophs*.

It is also true that mushrooms were classified in biology as plants until about 50 years ago. In my experience of 50-plus years of teaching preschool through high school, college, and senior citizens, I have found that many in our teaching profession still have not caught up with improvements over the old-fashioned idea that fungi/mushrooms are plants. If biology educators fail to recognize the importance of teaching about fungi in schools, perhaps it is because they have not been taught much about fungi themselves.

As amateur and professional mycologists, it is incumbent on us to help change that. With an ever-growing population of NAMA members who have much knowledge to share, we can help educate other NAMA members who are parents, grandparents, or just engaged community members, on how they might start educating their own children, as well as those enrolled in schools in their community.

To assist in better educating the next generation, NAMA and the education committee is in the process of updating the education section of our website to incorporate mycology teaching materials for children. We will be adding recommendations on children's books and other materials and ideas that NAMA members might use and gift to others.

We also appreciate any ideas and programs that NAMA members would like to contribute to our committee, especially those targeted at children in our focus age group of preschool to pre-teen. We are continually in search of innovative educational activities, especially as we plan Zoom and virtual presentations and national and regional forays, as well as materials and ideas that will enrich the education section of the NAMA website. Perhaps you might also like to volunteer to be on our committee or teach at our NAMA in-person or virtual forays? Let's alert others—especially children—about how much fun learning about mushrooms can be, and how vital mycology education is in all of our lives.

To submit recommendations on books, educational materials, or ideas in general, or to volunteer on the education committee or serve as an educator on a virtual or in-person foray, please email Sister Marie Kopin at secmmhc@gmail.com.

NAMA Seeks Leaders and Committee Chairs

By Trent Blizzard, NAMA President,
and Dave Layton, NAMA 1st Vice President
and Nomination Committee Chair

NAMA is a dynamically expanding organization headed toward an exciting future. If you want to help lead NAMA as it plays a pivotal role in the burgeoning interest in fungi, here are opportunities to help shape our future:

Opportunities to Serve On Executive Board
Board Secretary

NAMA Nomination Committee seeks potential nominees for the position of Board Secretary for a three-year term starting in January of 2023. The primary duties of Board Secretary are to attend NAMA Executive Board meetings, held during the annual foray, either by Zoom or in-person, take minutes of each board meeting, and email those notes to the board in a timely fashion for review and revision.
As a full voting member of the Executive Board, the Board Secretary will help shape NAMA's direction and future. Qualifications for this position include:
Current NAMA membership
Coherent communication and writing skills
Ability to use internet and computer applications such as Zoom
Willingness to take responsibility for timely presentation of meeting minutes.

Benefits: Registration fees for the Annual Foray are waived for board members since they are required to attend.
Please address interest and inquiries to Dave Layton davelayton54@gmail.com PH# 563-321-7383 (cell)

Membership Director

This is an executive position responsible for managing, growing and communicating with our membership base, especially around renewals. The successful candidate must have good verbal and written communication skills and be comfortable learning to use Memberleap, our current membership tracking software. The membership director will have input on future software decisions.

Mid-Atlantic and Appalachian Regional Trustees

(States listed at namyco.org/regional_trustees)
Regional trustees act as liaisons between NAMA and the regional clubs to promote the growth and development of NAMA, ideally attending mycology meetings and forays of their home chapter and nearby states and communicating information between NAMA and the regional clubs. Regional trustees should also facilitate the posting of regional club events on the NAMA website, help disseminate NAMA events and information among regional clubs, and more.
Regional trustees will serve by appointment until the annual meeting, at which point they will be officially elected if they choose to continue serving.

Serve On, or Head Up, a NAMA Committee

Whether you're looking to test the waters or dive in headfirst, NAMA has opportunities for all to get involved in growing mycology.

Fundraising Committee: Chair and Members

This newly-formed committee is charged with helping to find new revenue sources for NAMA to pursue. Myriad opportunities—ranging from new membership types to applying for federal grants, to promoting advertising and more—exist for 2023 and beyond. Bottom line is that NAMA is hoping to shape policies and plans to improve our financials … and we need your help!

Financial Committee: Chair and Members

This committee is charged with helping NAMA oversee and manage its financial resources and decision-making. With several very important financial challenges and opportunities that need immediate attention—including issues ranging from our endowment investment process to our non-profit status—this committee needs individuals with a finance background or financial savvy. Please join! We really need your help to be good stewards of our monetary resources.

To apply to serve in any of these roles, please address interest and inquiries to Trent Blizzard by email president@namyco.org or phone at 970-379-6754.

NOMINATIONS for 2022 Lincoff and Knighten Awards Now Open

Nominations for NAMA's awards for contributions to amateur mycology and service to mycology are now open.

Gary Lincoff Award for Contributions to Amateur Mycology

NAMA's Award for Contributions to Amateur Mycology is given annually to recognize a person who has contributed extraordinarily to the advancement of amateur mycology. Its recipients have often extensively conducted workshops, led forays, written or lectured widely about mushrooms and identifying mushrooms, all on a national or international level. In 2015, the name of the award was officially changed to recognize the contributions of Gary Lincoff.

Gary Lincoff

Nominations for this award should include a description of the accomplishments the nominee has made in the field of amateur mycology. A name alone is not a sufficient nomination, neither is a profile on a website.

The recipient must be living at the time of the award. Nominees not selected are automatically renominated for four additional years, after which time the nominee's name must be re-submitted. Tracking of submissions is incumbent upon the nominator, so it is advised that a previous nominator resubmit additional information about any previous nominees, including updates about their additional accomplishments.

Selection among nominees is made by the voting of the most recent past award winners, and the award includes a plaque and lifetime membership in NAMA. https://garylincoff.com/ Nominations are accepted until June 1 for the 2022 award year.

NOMINATIONS for 2022 Lincoff and Knighten Awards
Now Open

The Harry and Elsie Knighton Service Award

The Harry and Elsie Knighton Service Award was established by the NAMA Board of Trustees to recognize and encourage individuals who have distinguished themselves in service to their local clubs. It is named for the Knightons, whose efforts launched the North American Mycological Association in 1967.

The annual award consists of a plaque; publicity for the winner and club in *The Mycophile,* a one-year membership in the organization, and registration, housing and foray fees for the next NAMA Foray.

Each year's recipient is selected by a group of the most recent previous awardees. Every NAMA-affiliated mycological society may nominate one candidate who it feels has performed meritorious service during the current or preceding year. Unselected nominees are automatically renominated for two additional years. Updated nominating information is encouraged for those previously nominated. Nominations are accepted until June 1 for the 2022 award year.

To nominate candidates for either the Gary Lincoff Award for Contributions to Amateur Mycology or the Harry and Elsie Knighton Service Award send a detailed, single copy of a nomination by mail or email to:

John Lamprecht
Chair, NAMA Awards Committee
13804 East Wellington Crescent
Burnsville, MN 55337
Email: JML313@aol.com

NAMA

CLUBS

News, Fun Facts
and Announcements

By Heather Erickson,
2020 Marek Scholarship winner

The Minnesota Mycological Society (MMS), founded in 1898, is the second-oldest mycological society in North America. The oldest was the Boston Mycological Club, founded just three years earlier in 1895.

Prominent Minneapolis physician Dr. Mary S. Whetstone took an interest in mushrooms to provide adequate nutrition for women and children who needed supplementation in their diets. The society was incorporated in 1899, and it has been in continuous existence since then.

From the beginning, the MMS has been a generous contributor to the body of mycological knowledge. Dr. Whetstone and the MMS shared specimens and information with famous mycologists such as Dr. Charles H. Peck, Edward T. Harper, and Professor Benjamin M. Duggar, Ph.D., to help amateur mycologists access as much accurate information about these amazing fungi as possible.

The MMS had also proposed and gotten groundbreaking legislation passed when, in 1984, Minnesota became the first state to have an official state mushroom—the Morel! It was a tougher sell than one might guess.

For the entire history of our club, we have had monthly—often twice-monthly—meetings and forays when mushrooms are in season. The Minnesota Mycological Society is a family-friendly club with many kids joining us to learn about mushrooms on our forays. In addition, some people join us to capture mushrooms with their camera lenses rather than in their baskets. Our annual photo contest is one of the highlights of each year.

We have also prioritized public outreach to share information about mushrooms with people in the community. One of our most popular events is our annual display at the Minnesota State Fair.

We continue to learn new things every day. Our club has only been as successful as it is thanks to the volunteers to contribute their time and talents to help the mycological community.

minnesotamycologicalsociety.org/

Announcing the 2022 Visual Arts Contest

by Rose Tursi, NAMA Arts Committee Chair

After the astounding success of last year's inaugural visual arts contest, we've decided to continue the tradition for 2022! We are keeping the rules, categories and prizes the same but this year we are adding a theme. To coincide with the State Mushroom Initiative, we have chosen 'State Mushrooms' as this year's theme! Currently only three states have official mushrooms—and only one state has an official lichen—but several more are in the works. Most states are a completely blank slate. We're asking you to think about what fungus you believe best represents your favorite state, and use that as the spirit of your art piece. Consider also Canadian provinces, Mexican states and U.S. territories—we are the 'North American' Mycological Association after all. Be creative in how you choose to interpret this theme, we can't wait to see what you come up with!

Categories:
Photography
Digital Art
Drawing and Painting—Traditional
2D Mixed Media – Traditional
3D - Sculpture
3D - Sewing and Fiber Arts

All forms of art are accepted; when submitting, please choose the category into which you feel your work best fits. See Category Guidelines below.

Rules:
Participant must be a resident of North America. Membership in NAMA is not required.
Each participant may enter up to 6 pieces total in the contest, with no more than 3 entries for any one category.
No "adult" content; entries must be "family friendly."
Art must visually depict fungi somewhere in the piece and/or use fungi as an ingredient (for example, dyed or painted with pigments made from mushrooms, dried mushrooms in mixed media, etc.).
By entering, entrant agrees to allow NAMA the use of submission images in our newsletter, social media, and printed promotional materials. (Please include your @name if you would like to be tagged on Instagram.)

Prizes:
First Place winner in each category will receive a one—year membership to NAMA.
Honorable—Mentions may be presented for entries found to be of particular interest but that do not place. Winners will be announced and notable entries displayed in a slideshow presentation at NAMA's Annual Continental Foray, this year to be held in the Missouri Ozarks, September 29—October 2, 2022.

Submitting:
Submit one (1) photo per entry (3D categories may submit up to 3 photos per entry) preferably in .jpg format and in a high enough resolution that it can be projected on a screen without pixelation.
File name must be labeled with identifying info such as entrant's name and category (for example: JonSmith.Sculpture.jpg.) Email your files and any questions to NAMA Visual Arts Committee: NAMA-visualarts@gmail.com
Include "NAMA Visual Arts Contest" in the subject line and other relevant info in email.
Entries must be received by August 15, 2021. Voting will be conducted by an impartial jury of professional artists selected by NAMA's Visual Arts Committee.

Category Guidelines:
Photography: Scientific and Pictorial photographs. Include species name. Entries may not contain text, stickers/clipart, other design elements etc. (please enter those under the category Digital Art).
Digital Art: Includes photo manipulation, digital illustration, digital collage. May include some animated elements (for example, a GIF.)
Drawing and Painting: Traditional pencil/charcoal drawings, ink, markers, watercolor, gouache, acrylic, oil, etc.
2D Mixed Media: Traditional artwork in which more than one medium or material has been employed. This category includes collage, assemblage, etc. Art can have some dimensionality, but is viewed primarily as 2D.
3D – Sculpture: Includes pottery, sculpture, jewelry, miniatures, 3D mixed media and any other dimensional crafts that do not fall under the category 'Sewing and Fiber Arts'.
3D – Sewing and Fiber Arts: Knitting, crocheting, felting, etc. Also includes all sewing, quilting and most wearable art. (Mixed media in which fiber and/or fabric are the primary component should be entered here.)
Please note: the Visual Arts Committee may, at their discretion, change the category of an entry or reject an entry that does not fit the spirit of the contest.

Mycopreneur Incubator launched in Mexico

by Dennis Walker

In January of this year, I hosted the inaugural "Mycopreneur Incubator" for mushroom entrepreneurs in San Cristobal de Las Casas, Mexico to connect with other fungi-centric business owners. We managed to congregate a dozen impassioned mycophiles in the historic center of San Cristobal de Las Casa and hold a week-long series of deep-dive workshops, catered dinners, fungi fiestas, and a foraging expedition into one of the most biodiverse and remote jungles on the planet.
The event was designed to connect mycopreneurs from the United States and Mexico in an act of "Fungi Diplomacy," which we did in grand fashion.
Representing Chiapas, Mexico, a group of young myco-activists that collectively go by the name 'Fungaria' conducted workshops on the abundant wild mushrooms of their home state. Shockingly, only 2% of the nearly 50,000 estimated fungi species in Chiapas have been cataloged and described by science. Led by extremely impressive university-educated bilingual biologist and mycophile Ezequiel Cruz, the goal of Fungaria is to reconnect the Chiapanecan people with their fungi heritage through education and forays throughout the state. Fungaria is actively gearing up to host several

Mycopreneur Incubator continued

extended forays throughout the upcoming rainy season, kicking off in July 2022.
Ireri Monter of Cooperativa Simbioses in Mexico City presented a workshop on the conservation and outreach work her collective is doing, which primarily focuses on teaching exotic mushroom cultivation and on bridging the gap between the extensive ancestral knowledge of wild fungi in Mexico with the world of academia and science.

From the United States, Alex Dorr of Mushroom Revival participated and shared his experience of building and scaling one of the most prolific mushroom supplement companies in the U.S. David Poplin of Humboldt Mycology presented on his work cultivating exotic and medicinal fungi, and on his product development strategy and the community service initiatives that drive his mycopreneurial venture.
Rounding out the list of presenters for the first Incubator, William Goss shared his experience working with Monterey Mushrooms and MycoWorks mycelium materials.
We kicked off the week with a private mushroom dinner and cocktail mixer, where we all had a chance to get to know one another in a relaxed and casual setting. Wednesday through Friday of the opening week, we ran the deep dive presentations and lectures.
On Saturday night, we hosted a large fungi party in a hilltop mansion and rocked out to a live Klezmer band while sipping mezcal and enjoying a large bonfire with views of the city below.
The following morning, we left on an overnight foraging expedition into the Lacandon Jungle, one of the most biodiverse and undisturbed fungal jungles in the world. We found a jackpot of rare and potentially as-of-yet known to science fungi, including numerous *cordyceps* specimens. The standouts were several impressive *Cordyceps melolonthae var. rickii*, two different types of *Auricularia Fuscosuccinia* and *Auricularia Nigricans* (both edible species) and a handful of species that no one in the group recognized.
The inaugural Mycopreneur Incubator was a success on all levels, and I'm gearing up to hold incubators in Europe and India over the course of the next year. For more information on how to apply for the Mycopreneur Incubator, or to join one of the upcoming Chiapas Fungi Adventures led by Fungaria, visit www.mycopreneur.com or reach out to me at mycopreneur@gmail.com.

Instagram Takeover Continues

NAMA's social media team passed the baton to numerous mycophiles over the past several months for some seriously content-rich Instagram takeovers. Here's a look at, and big thank you to, some of those influencers who took over the @northamericanmyco Instagram feed this winter.

Pascal Bauder @pascalbaudar
Cassandra Posey @cassandraposey
Tony Bologna @shroomywalkabout
Sandor Katz @sandorkraut
Alan Rockefeller @alan_rockefeller
Rich Shih @ourcookquest
Nicco Muratore @niccomuratore
Tyler Akabane @mushroomsformyfriends
Ancil Jacques @swampyappleseed
Mario Ceballos @pocfungicommunity
Neftali Duran @neftelieduran_
Sarah Graham @ohemsarahgee
Columbia Mushroom Company @columbiamushroom
Indy @indyofficinalis
Darren and Shakti @welcome_to_mushroom_hour
M.T. @myctysonmushrooms
Jonny Darter @jonny.darter
Brian Yazzie @yazzie_thechef
Stark North @starknorth
Oakland_Hyphae @oakland_hyphae
Patrick Murphy @patrickhmurphy

by Dave Layton NAMA 1st Vice President and Nomination Committee Chair

Three states have state mushrooms, including Texas of all places. Lots of folks believe that if Texas can have a state mushroom any state could, so now the North American Mycological Association (NAMA) is promoting state mushrooms for all 50 states. Hold on—even Iowa!? Home to the most altered landscape in North America? To be sure, we have parks and wildlife preserves where many kinds of mushrooms flourish, but a state mushroom should be one that can be found all over the state. There aren't many mushrooms growing in corn and beans.

There were snickers at the NAMA board meeting when one of two Iowans on the call mentioned corn smut as a possible state mushroom. I thought, if only that were possible, for if Iowa really had corn smut as a state fungus, it would mean our farming practices that now depend on herbicides, pesticides and fungicides would be more natural, and maybe corn smut itself would be seen as a valuable cash crop—it is a delicacy in some places.

Yes, corn smut could boost Iowa's economy, but that's not likely. Let's face it; 99 out of 100 Iowans consider corn smut disgusting and vile. "Me too," said my wife Sally, upon proofreading the last sentence. She proved that Iowans, even one who eats a lot of wild mushrooms, would never vote for corn smut as a state mushroom.

No, Iowa needs a mushroom that reflects Iowa's people—plain and simple, independent and resilient but sometimes with a tough and knotted nature. Wait! Knotted reminds me of knothole. That's it! The knothole mushroom (*Hypsizygus ulmarius*) is the perfect state mushroom of Iowa. It's plain but elegant. Plus it's edible and growing in virtually every patch of scrub woods in every county in Iowa. It's a simple yet picturesque fungal delight emerging from the gnarliest of trees, box elder.

Actually, box elder is a member of the maple family. Box elders provide so much more than the hated piles of red box elder bugs infesting the homes of everyone who owns them. Box elder is a large portion of the remaining habitat for a host of life along creek banks, old fencerows, and ditches—any place that has escaped modern farming practices.

Several species of edible fungi can be found on box elder at different times, but the knothole mushroom is the epitome of all mushrooms in its perfect shape, robust size and ivory-colored caps. I like cooking it with other mushrooms because it keeps a light color and firm but tender texture when cooked.

Large older knothole mushrooms that are too high in the trees for even a fool like me to climb up for remain impressive throughout the fall until they blend in with a barren Iowa winter landscape. The knothole mushroom's basic functional simplicity of design is an excellent metaphor for the simple productive lifestyles that formed Iowans' values over the last two centuries.

I've got it! We'll market it as the Iowa Values Mushroom. Our legislators talk a lot about values. Maybe they'd vote for the Iowa Values Mushroom to be our state fungus. Knothole mushrooms have one other big plus. They'll be the easiest mushrooms in the world for six- and seven-year-olds to draw pictures of when they lead our "Knotholes for State Mushroom" lobbying campaign.

However, we will have to squelch the falsehoods and misleading representations of this innocent fungus. You see, it's often commonly referred to as the elm tree oyster but that's just plain wrong. These are definitely not oyster mushrooms, and in Iowa they're seldom found on elm. They're almost always found growing on box elder, which is as ubiquitous as it is rugged and gnarly. Rugged and gnarly—qualities you'd be likely to find among folks living anywhere in the state. I can imagine the slogan now: "The knothole mushroom … simple functional beauty growing from a rugged source, just like the people of Iowa—the Iowa Values Mushroom." We Iowans need to get on this now, because I think the knothole mushroom might be the best choice for South Dakota, North Dakota, Nebraska, Kansas and Oklahoma too.

Knothole Mushroom

Photo by Dave Layton

Myco Calendar

Regional and National Events

May

17: The State of State Mushrooms
Zoom Webinar
7:30 p.m. Central
The North American Mycological Association hosts a lighthearted and fun webinar with NAMA Visual Arts Chair Rose Tursi, who will explain the origin of state symbols and dive into how mushrooms specifically deserve official recognition. namyco.org/webinars

24: Armchair Discussion: Robert Courteau of Think Fungi hosts Dr. Toby Kiers of SPUN
Zoom Webinar
10:00–11:15 a.m Central
NAMA member and founder of Think Fungi will host a discussion with Dr. Toby Kiers, cofounder of the Society for the Protection of the Underground Network (SPUN), recipient of a $3.5 million grant to conduct mapping the global fungal network in order to determine which ecosystems require immediate conservation efforts. namyco.org/webinars

June

4: Frontiers in Mycology: Chanterelles in Texas
Zoom Webinar and in-person, North Dallas, TX
10 a.m.–12 p.m. Central
North Texas Mycological Association's monthly class features host Patrick Harris diving into the known species of *Cantharellus* that exist in the era as well as species of *Cantharellus* that have yet to be named by science that occur in Texas. northtexasmycology.org/events-details

18: Tree ID workshop
Prairie Pines Nature Preserve, Lincoln, NE
11:00 a.m.--4:00 p.m.
The Nebraska Mycological Society will host a tree identification workshop at Prairie Pines Nature Preserve. nebmyco.com/calendar

July

29–31: West Virginia Mushroom Club's Annual Foray
Blackwater Falls Lodge, Davis, WV
More information can be found on the West Virginia Mushroom Club's website or Facebook page.

August

12–14: Arizona Mushroom Society Annual Foray

Alpine, AZ

Spend a weekend in the White Mountains of eastern Arizona with citizen scientist and talented photographer Alan Rockefeller, Arizona Mushroom Society Scientific Committee Chair and star citizen scientist Terri Clements, and other members of the Arizona Mushroom Society finding, learning about, and eating wild fungi. arizonamushroomsociety.org/event-4679350

September

15–18: Northwoods Regional Foray

Lakewoods Resort & Lodge, Cable, WI

Hosted by the Wisconsin Mycological Society and NAMA. Information at namyco.org/regional_foray

24: 22nd Annual Gary Lincoff Foray

North Park, Pittsburgh, PA

Hosted by the Western Pennsylvania Mushroom Club, with guest mycologists Alan and Arleen Bessette. wpamushroomclub.org/lincoff-foray.

29–Oct. 2 NAMA Annual Foray

Trout Lodge, near Potosi, MO

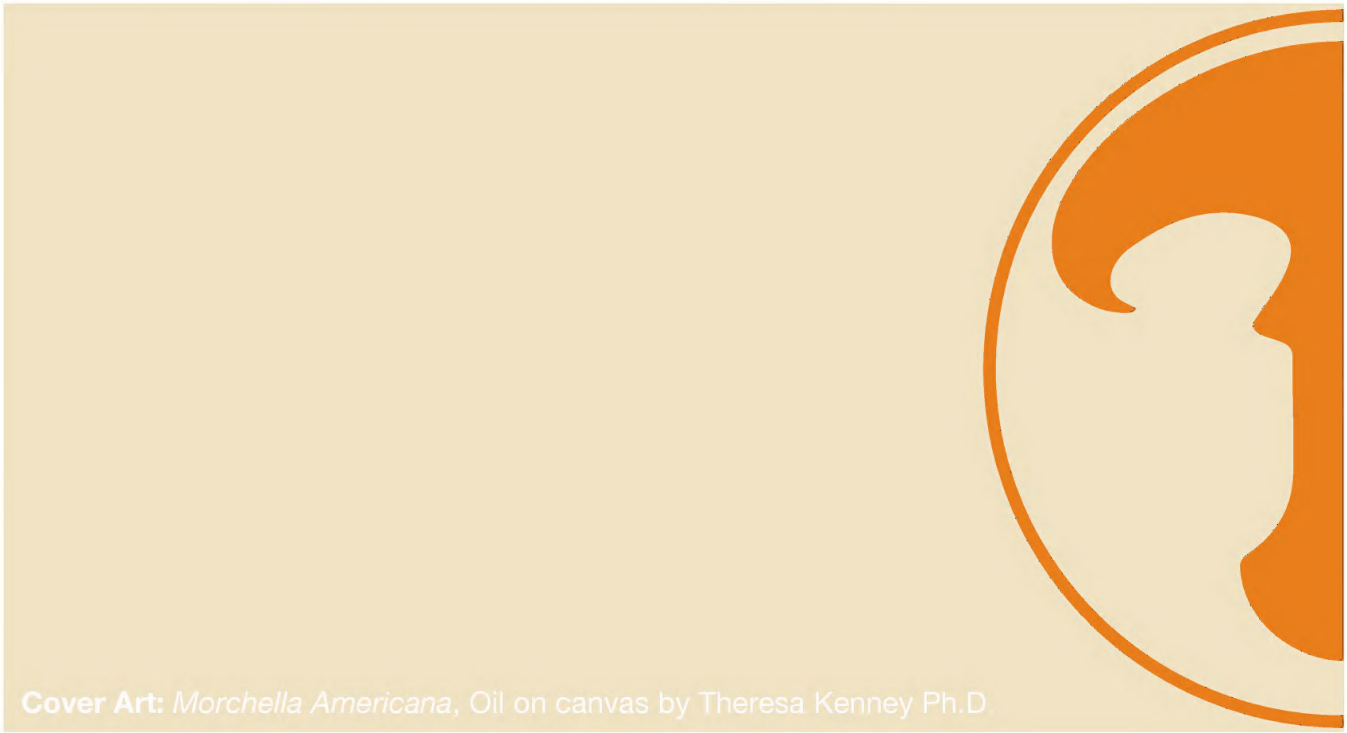
Lectures from renowned mycologists, numerous forays, cooking demonstrations and more. namyco.org/annual_foray

October

8–9 Alabama Mushroom Festival

Lake Howard, Sylacauga, AL

The Alabama Mushroom Society launches a new annual festival featuring speakers such as Britt Bunyard, Alan and Arleen Bessette, Jay Justice, Alan Rockefeller, Bill Yule, and more, as well as forays, vendors and crafts. alabamamushroomsociety.org/AMF



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